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AMENDMENT TO THE CLAIMS

1-74 (Cancelled)

75. (Previously Presented) An ultrasonic diagnostic imaging system comprising:

an ultrasonic array probe connected to an imaging system having a computer platform with a central processing unit (CPU) that receives beamformed image data from a programmable beamforming integrated circuit having at least 10 channels and connected to a control circuit that controls a variable delay setting for the beamforming integrated circuit, the computer platform comprising:

signal processing software for performing at least one of scan conversion and Doppler processing of processed signals from a region of interest; and

display processing software for performing display processing of said processed signals; and

a display coupled to said personal computer platform to receive processed signals for display of an ultrasonic image; and

the ultrasonic array probe, the beamforming integrated circuit and computer platform having a weight of ten pounds or less.

76. (Previously Presented) The ultrasonic diagnostic imaging system of claim 75 wherein said computer platform further comprises an image data memory.

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77. (Previously Presented) The ultrasonic diagnostic imaging system of claim 75 wherein said signal processing software and said display processing software are executed by said CPU.

78. (Previously Presented) An ultrasonic diagnostic imaging system comprising:

an ultrasonic array probe connected to an imaging system that includes an integrated circuit beamforming device having at least a single integrated circuit with at least 10 variable delay channels and a computer platform having a central processing unit (CPU) that receives beamformed image data from the integrated circuit beamforming device, the computer platform comprising:

a memory to store the beamformed image data from a region of interest;

signal processing software for processing said shared digital data from the region of interest to generate digital images of the region of interest; and

a display coupled to said computer platform for displaying said digital images of the region of interest; and

the ultrasonic array probe, beamforming device and computer platform having a weight of 10 pounds or less.

79. (Previously Presented) The ultrasonic diagnostic imaging system of claim 78 wherein said computer platform further comprises a scan conversion program.

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80. (Previously Presented) The ultrasonic diagnostic imaging system of claim 78 wherein said computer platform further comprises a beamformer control circuit.

81. (Previously Presented) The ultrasonic diagnostic system of claim 78 wherein the beamforming device comprises a charge domain processing device.

82. (Previously Presented) The ultrasonic diagnostic system of claim 78 wherein the display comprises a flat panel display attached to the computer.

83. (Previously Presented) The system of claim 75 further comprising a beamformer control circuit to control a plurality of differential delays for at least a single integrated circuit having at least the 10 channels used to beamform signals received by the probe from a region of interest.

84. (Previously Presented) The system of claim 75 wherein the probe has at least 64 transducers.

85. (Previously Presented) The system of claim 75 wherein the system is battery operated.

86. (Previously Presented) The system of claim 75 further comprising a wireless connection to communicate ultrasound image data.

87. (Previously Presented) An ultrasonic diagnostic imaging system comprising:

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an ultrasonic array probe connected to an imaging system including an integrated circuit beamforming device having at least 64 channels and a computer platform with a central processing unit (CPU) that receives beamformed image data from the beamforming device, the computer platform comprising:

a memory to store beamformed image data of a region of interest;

signal processing software for processing said image data from the region of interest to generate digital images of the region of interest; and

a display coupled to said computer platform for displaying said digital images of the region of interest; and

the ultrasonic array probe, beamforming device and computer platform having a weight of ten pounds or less.

88. (Previously Presented) The ultrasonic diagnostic imaging system of claim 87 wherein said computer platform further comprises a scan conversion circuit.

89. (Previously Presented) The ultrasonic diagnostic imaging system of claim 87 wherein said computer platform further comprises a beamformer control circuit and a battery that provides power to the imaging system.

90. (Previously Presented) The ultrasonic diagnostic imaging system of claim 87 wherein the beamforming device comprises a charge domain processing device.

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91. (Previously Presented) The ultrasonic diagnostic system of claim 87 wherein the display comprises a flat panel display attached to the computer.

92. (Previously Presented) The system of claim 87 further comprising a beamformer control circuit to control a plurality of differential delays used by a beamforming device to beamform signals received by the probe from a region of interest.

93. (Previously Presented) The system of claim 87 wherein the probe has at least 64 transducer elements.

94. (Previously Presented) The system of claim 87 wherein the probe has at least 128 transducer elements.

95. (Previously Presented) The system of claim 75 wherein the system further comprises a memory communicating with the beamforming integrated circuit that stores delay control signals.

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